



MRSA among USMC Recruits: Update and Recommendations

Armed Forces Epidemiologic Board
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LCDR Craig Zinderman MC USNR
Navy Environmental and Preventive Medicine Unit #2
Norfolk, VA

Background

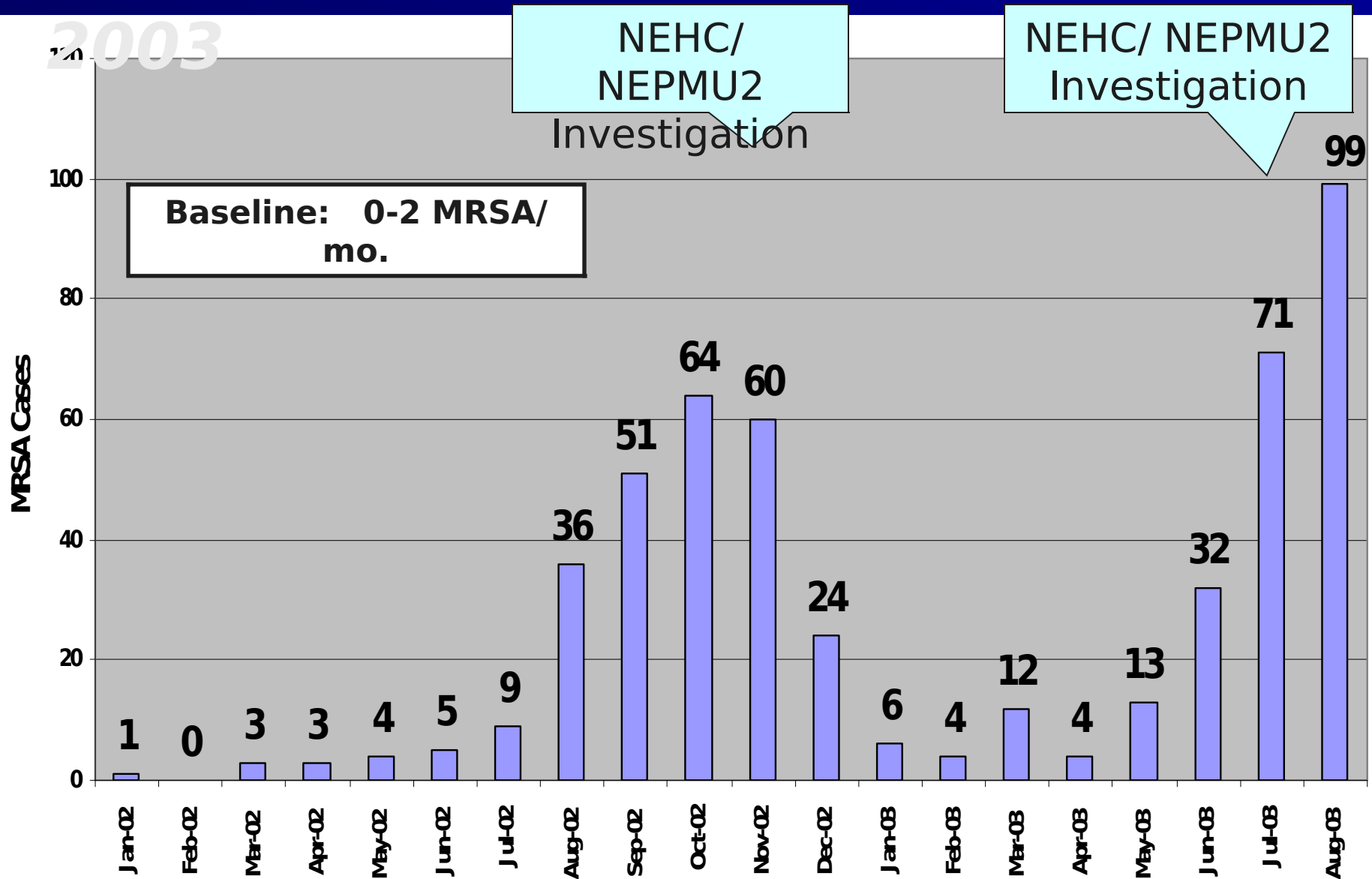
MRSA at MCRD, PI

- **Large outbreak Summer/ Fall 2002:**
 - **220 cases** (01 Aug to 31 Dec)
 - **Investigation Nov 2002**
- **Spring 2003: MRSA on the rise again**
 - **Investigation June 2003**
 - **Findings and Recommendations**
- **Case definition: MRSA culture positive skin and soft tissue infections**

Data

2002 -

2003



Findings

- **Etiology**
 - No apparent common source

Increased community prevalence

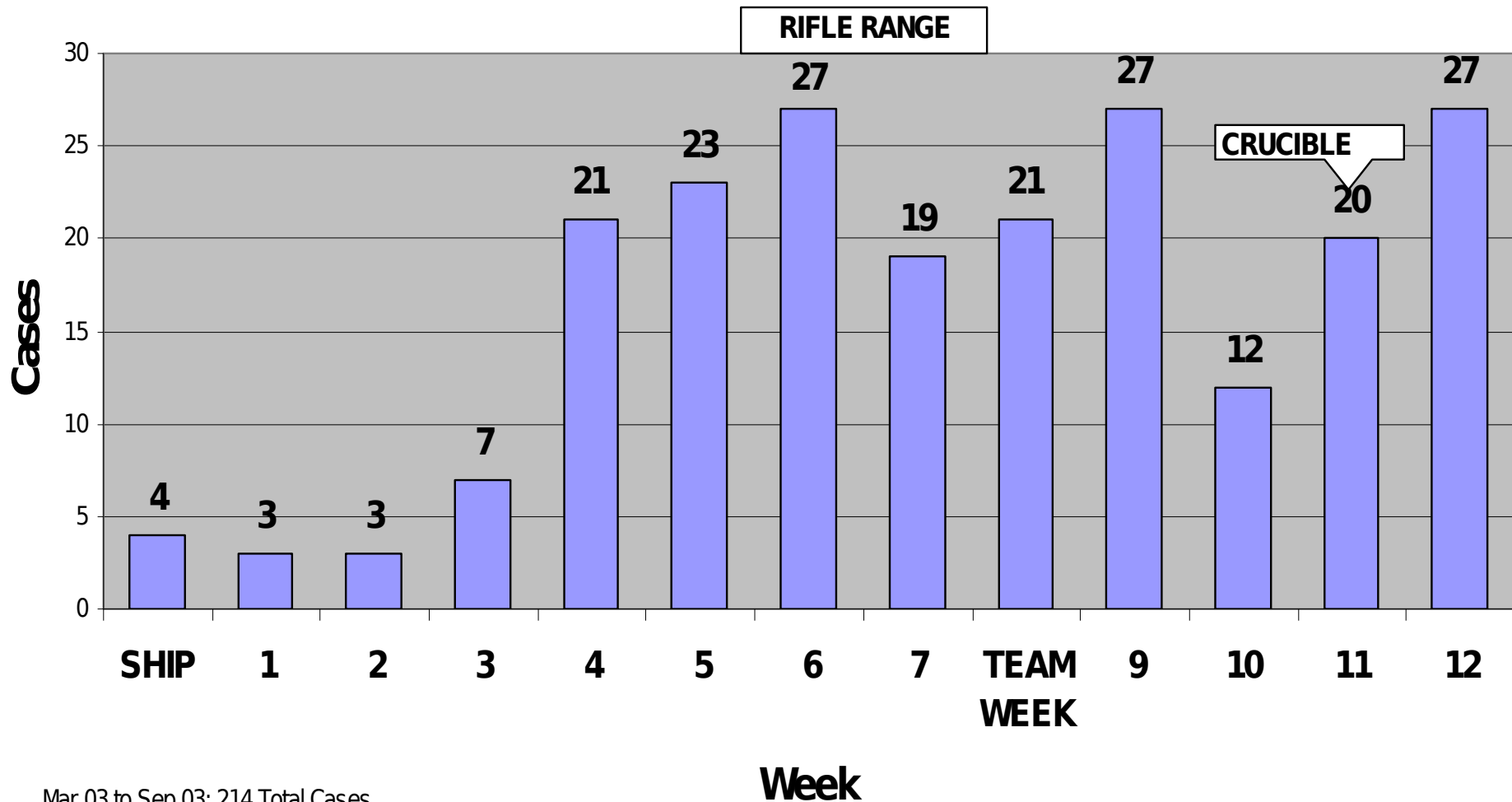


Increased prevalence in new recruits

- **Factors contributing to infection and transmission:**
 - Hygiene
 - Close contact
 - Heat, humidity
 - Superficial injury / Insect bites
 - Stress: rigors of recruit training

Data

MRSA Cases by Training Week



Findings & Recommendations

- **Epidemiology**

- **Time:** Increase after WEEK 5
- **Place:** Peaks after Firing range, Crucible
- **Person:**
 - Cases in most companies, some clustering
 - Attack rate: up to 30% of a platoon
 - Low staff member colonization
- **Recommendations:**
 - Increase surveillance to weekly
 - Direct Intervention for heavily affected Platoons (>5%)

Findings & Recommendations

- **Hygiene**
 - **Partial Compliance with previous measures**
 - **Recommendations: Improve recruit hygiene**
 - **Hand-washing & showers**
 - **Personal Hand-sanitizers**
 - **Others: inspections, laundry**
- **Environmental Transmission minor**
 - **Large scale environmental sampling not beneficial**
 - **Recommendations: Conduct sampling only if indicated by epidemiologic data**

Current Approach

- **Direct Intervention**
 - Interviews & Training
 - Enforced showers, hand-washing
 - Hibiclens showers if attack rate greater than 5%
- **Diagnosis and Treatment**
 - Culture, Culture, Culture
 - 4-prong Rx: Rifampin, Septra, Mupirocin, Hibiclens
- **Genetic Testing**
 - 2002 and 2003 samples
 - Results pending: Predominant vs. multiple strain

Future Approach

- **Continued focus on improving personal hygiene**
- **Monitoring attack rates and identifying high risk platoon populations**
- **Provider education and algorithm designed for treatment of skin infections**
- **In-Depth Studies necessary?**
 - **Colonization Survey**
 - **Assess transmission throughout training**
 - **Auto-infection?**
 - **Prophylaxis:**
 - **Universal vs. Colonized vs. None**
 - **Mupirocin (40 % recurrence, 11% resistant after prophylaxis)**
 - **Clinical Trials of new drugs**
 - **Staphylococcal Vaccines?**



LCDR Craig Zinderman MC USN

Preventive Medicine Officer

Navy Environmental and Preventive Medicine Unit #2

www-nehc.med.navy.mil/nepmu2/nepmu2_index.htm
(COMM) 444-7671
(DSN) 564-7671

A black and white photograph of the iconic Iwo Jima flag-raising scene. Several Marines are shown in the foreground, struggling to hoist a large American flag onto a tall pole. The flag is partially visible at the top left, with its stars and stripes clearly seen. The background shows a hazy, mountainous landscape under a cloudy sky.

USMC UPDATE

AFEB Fall 2003

CDR David McMillan, MC, USN
Preventive Medicine Officer
Headquarters, USMC
Health Services

USMC Sports Medicine & Injury Prevention Initiative

Overview: Back, on time.

- **Funding:** Targeting POM 06, CMC discretionary reserve funding thru FY04, unchanged.
- **Data:** *Health & Safety Module* in final configuration; data being received from ATCs.
- **Certified Athletic Trainers:** Six onboard at initial training sites.
- **Concerns:**
 - *Catastrophic success!!*
 - *Primary prevention difficult to access.*

HQMC/HS PMO continuing issues:

- Deployment Health Issues.
- ATSDR study for Camp Lejune.
- MRSA-study expansion.